

**Amendments to the claims:**

This listing of claims replaces all prior versions and listings of claims in the application.

All previously pending claims 1, 2, 6 – 10, 15, 16, and 24 – 31 are cancelled.

32. (New) A geodesic structure comprising a plurality of conical elements, each conical element of said plurality of conical elements being defined by a cone wall and a vertex, wherein said plurality of conical elements are arranged to form a shell, and wherein said plurality of conical elements are arranged such that a distance and a direction of displacement between any two vertexes of adjacently placed conical elements is infinitely variable between a minimum limit and a maximum limit.

33. (New) The structure of claim 32, wherein said conical element is a circular cone, wherein said cone wall tapers toward said vertex from a wide end toward a narrow end, wherein said conical element has an element length defined by a length of said cone wall from said wide end to said narrow end, and wherein said conical elements are placed in an overlapping arrangement so as to form said shell.

34. (New) The structure of claim 33, wherein said conical elements are arranged such that said narrow end of said circular cone points outward from said shell and a portion of said cone wall of a first conical element overlaps a portion of said cone wall of at least two other conical elements, so as to form said shell.

35. (New) The structure of claim 34, wherein said portion of said cone wall of said first conical element overlaps a portion of said cone wall of at least three other conical elements, so as to form said shell having a closed surface;

wherein said overlapping arrangement includes a first conical element that overlaps with at least a second conical element, a third conical element, and a fourth element;

wherein a first amount of overlap between said first conical element and said second conical element forms a first strut distance and direction between said vertexes of said first conical element and said second conical element, a second amount of overlap between said first conical element and said third conical element forms a second strut distance and direction between said vertexes of said first conical element and said third conical element, and a third amount of overlap between said first conical element and said fourth conical element forms a third strut distance and direction between said vertexes of said first conical element and said fourth conical element; and

wherein said first strut distance and direction is any distance and direction between said minimum and said maximum limits, said second strut distance and direction is any distance and direction between said minimum and said maximum limits, and said third strut distance is any distance and direction between said minimum and said maximum limits.

36. (New) The structure of claim 35, wherein an opening is formed in said shell to provide means to access an inner space of said shell.

37. (New) The structure of claim 35, wherein said maximum limit is slightly less than a sum of said element lengths of any two adjacent conical elements.

38. (New) The structure of claim 35, wherein said minimum limit is slightly greater than one-half of a sum of said element lengths of any two adjacent conical elements.

39. (New) The structure of claim 32, wherein said conical element is a truncated circular cone, wherein said cone wall tapers toward said vertex from a wide end toward a narrow end, wherein said cone wall is truncated short of said vertex, such that said vertex is an imaginary point defined by a taper of said cone wall, and wherein said conical elements are placed tangentially adjacent one another.

40. (New) The structure of claim 32, wherein each conical element of said plurality of conical elements is a three-sided conical element formed by a wide end, a narrow end,

and a three-sided cone wall having three sections that define a triangular shape and dimension of said conical element.

41. (New) The structure of claim 40, wherein said plurality of conical elements includes a plurality of said three-sided conical elements having triangular shapes and dimensions that vary from one another.

42. (New) The structure of claim 32, wherein said conical element has an angular deficit  $\alpha$  that defines an amount of taper of said cone wall between said wide end and said narrow end, and wherein said angular deficit  $\alpha$  of said conical element varies in magnitude from said angular deficit  $\alpha$  of an adjacent conical element.

43. (New) The structure of claim 42, wherein said plurality of conical elements includes two groups of conical elements, each group having a different magnitude of said angular deficit  $\alpha$ , and wherein said conical elements of said two groups are arranged in an alternating pattern.

44. (New) The structure of claim 32 further comprising a skin that is placed over said shell.

45. (New) The structure of claim 32, wherein said conical elements are arranged with said narrow end of some of said conical elements facing inward and with said narrow end of other ones of said conical elements facing outward, so as to form said shell having an irregular shape.

46. (New) The structure of claim 32, wherein said conical element is constructed of sheet material from a group of material consisting of paper fiber products, wood fiber products, composite material, sheet metal, corrugated metal, polymeric material, rubber, woven materials, pressed materials, coated materials, and combinations thereof.

47. (New) The structure of claim 32 further comprising a fastening means for attaching said plurality of conical elements to one another, wherein said fastening

means includes means from the group consisting of adhesive means, threaded fasteners, staples, crimped edges, folded edges, rivets, hook-and-loop fasteners, nails, and combinations thereof.

48. (New) A method of constructing a structure made of said conical elements of claim 32, said method comprising the steps of:

- a) determining a desired radius (R) of said structure;
- b) determining a necessary number of said plurality of conical elements;
- c) arranging said conical elements adjacent one another, with a distance and direction between said vertexes of any two adjacently placed conical elements being variable within said minimum limit and said maximum limit, and fixing said conical elements in place;
- d) creating an opening in said geodesic structure for purposes of ingress and egress;.

49. (New) The method of claim 48, wherein said step of determining a necessary number of said plurality of conical elements includes the steps of:

- b1) selecting a desired dome angle  $\theta$  of said structure;
- b2) calculating an internal angle  $\beta$ ;
- b3) calculating said angular deficit  $\alpha$  of said conical element by calculating (360 degrees)  $\times$  (1 - sin  $\beta$ );
- b4) calculating the number of said conical elements by calculating (360 degrees)/ $\alpha$ ;
- b5) determining a strut length (SL) of said conical element, wherein  $SL = (\sin \theta) (R)$ ;
- b6) determining a minimum element length ( $L_{MIN}$ ) of said conical element, wherein ( $L_{MIN}$ ) =  $SL/2$ ; and
- b7) calculating an actual element length ( $L_{ACTUAL}$ ) of said conical element.

50. (New) The method of claim 49, wherein said step of determining said minimum element length ( $L_{MIN}$ ) includes calculating an amount of overlap between each said adjacent conical element.